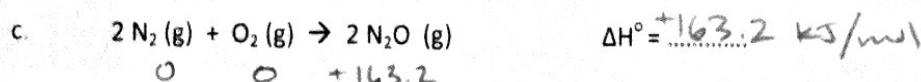
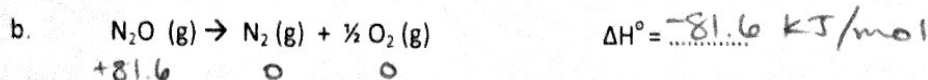
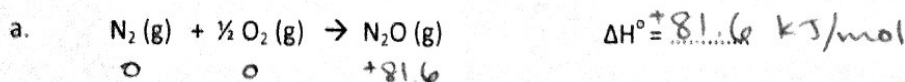


T05D05 - Enthalpy of Combustion, Neutralization, etc

Name KEY

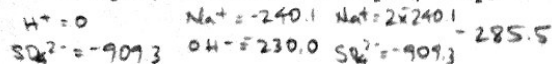
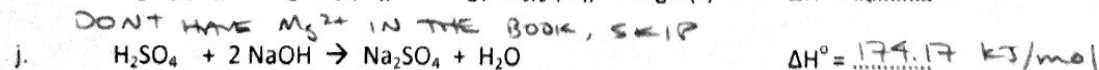
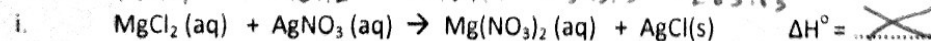
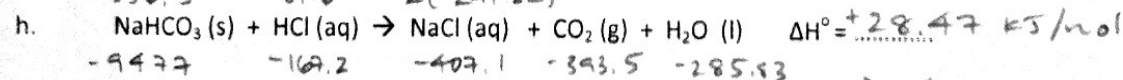
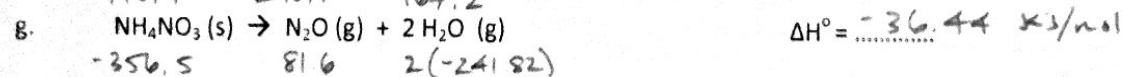
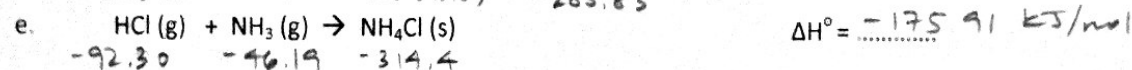
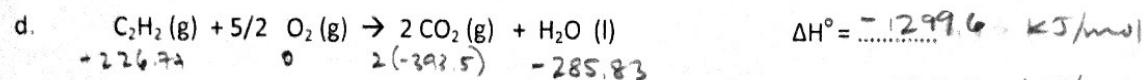
Remember, both combustion AND neutralization are exothermic reactions. When using table 12 of your IB Chemistry Data Booklet you will find that each ΔH_c° value has a negative sign (exothermic).

1. Using the tables given out (has more than the data booklet) calculate the enthalpy change ΔH° for each of the following reactions. All are at standard conditions [298 K and 1 atm]



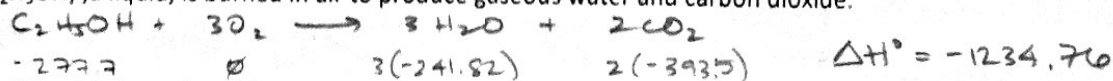
Rules of thermochemistry are:

1. If you multiply the reaction, you must multiply ΔH as well.
2. ΔH of a rxn is $-\Delta H$ for the reverse reaction

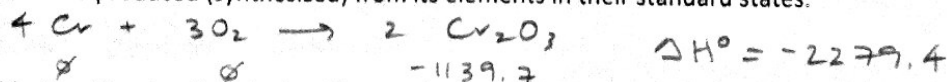


Take the following word equations, change into symbols, balance and calculate the enthalpy change for each.

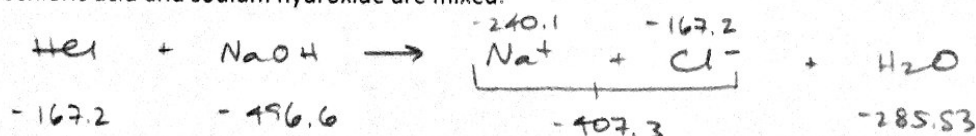
- k. Ethyl alcohol ($\text{C}_2\text{H}_5\text{OH}$), a liquid, is burned in air to produce gaseous water and carbon dioxide.



- l. Solid chromium (III) oxide is produced (synthesized) from its elements in their standard states.



- m. Solutions of hydrochloric acid and sodium hydroxide are mixed.



$\Delta H = -56.13$